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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/733,454
Filing Date: December 12, 2003
Appellant(s): OHTSU ET AL.

James A. Oliff
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed March 10, 2008 appealing from the Office action mailed April 30, 2007.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is substantially correct. However, comments directed to Japanese 2002-146,066 (Niino) are moot as this reference has been dropped from the rejection as being, at best,

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cumulative with respect to Japanese -429 (Saiki). Also, as explained by appellant, the provisional double patenting rejections over applications 11/005,077, 10/930,816 and 10/390,685 have now been converted to actual double patenting rejections over the patents (and claims therein) that these applications have matured into since the final rejection. The correlation of application to patent is noted by appellant in the Grounds Of Rejection section of the Brief and will not be reiterated here. Additionally, the provisional double patenting rejections made over the applications that have not matured into patents have been maintained, noting that appellant does not present these rejections for review.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

6,355,198	KIM et al	3-2002
2002-365,429	Japanese Patent (Saiki)	12-2002

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al in view of Japanese Patent 2002-365,429 (Saiki) as disclosed at pages 6 and 7 of the instant specification.

Kim et al (see Fig. 1) discloses the basic claimed method of producing a polymer optical waveguide comprising the steps of preparing a template (20—called forming article) made of a curable resin (col. 21, line 19) having a concave portion (24) corresponding to the waveguide core convex portion, bringing a cladding film substrate (30) into close contact with the template, filling a core forming curable resin (36—see col. 33, line 21) into the concave portion of the template, curing the resin, removing the template and forming a cladding layer (col. 33, lines 55-56) on the cladding film substrate. The template is disclosed as being made of an elastomer, which would render instant claims 4 and 5 obvious thereover. The exact core forming resin is submitted as being within the skill level of the art, Kim et al teaching using any fluid precursor that would be conventionally used to make an optical waveguide core. Also, the exact film material used as the cladding film substrate layer and the refractive indices of the cladding film substrate, core forming resin and (upper) cladding layer would have been within the skill level of the art dependent on exact optical properties desired for the waveguide. In this regard, see column 35, lines 41-63 of Kim et al, which clearly indicates that material selection for the components of the waveguide is within the purview of one of ordinary skill in the art. It is further submitted that the exact material used for the template would also have been within the skill level of the art—see

Kim et al, column 21, lines 18-45—and the surface energy, hardness and surface roughness of the template would have been obvious dependent on the material selected therefor, since these properties are essentially material-dependent. The template of Kim et al is taught as being light transmissive (see col. 11, lines 42-44) as required in instant claim 15.

Clearly, the primary reference to Kim et al discloses or renders obvious the basic claimed invention except for the step of applying an ozone or irradiation light treatment to the concave surface of the template or the core forming surface of the cladding film substrate as set forth in step (2) of instant claims 1 and 19 and that the difference in refractive index of the template and the core is .01 or more as required in instant claim 19. Concerning the latter, it has already been set forth that the exact material of the core and that of the template would have been well within the skill level of the art. As such, the exact difference in refractive indices between these components would also have been within the skill level of the art, since the refractive index of a material is clearly material-dependent. Concerning the former, Japanese Patent -429 (see paragraphs 0013 and 0020-0024 of the translation) discloses applying a treatment as set forth in step (2) of instant claims 1 and 19 to a transparent protective film 3 to render the surface of the film so treated hydrophilic, such treatment also rendering it more adhesive to a subsequently applied resin adhesive and polarizer. See the last paragraph on the last page of the translation. While the disclosure of Japanese -429 is directed to making a polarizing plate, it is believed that the teaching contained therein of rendering the surface of a polymer film (ie, the protective film 3) as more adhesive to a

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subsequently applied resin and polymeric film (ie, the adhesive and polarizer) would have been applicable to polymer films used to make other optical articles. In the instant case, the same treatment disclosed in Japanese -429 and that set forth in the instant claims would certainly have been used to render the surface of the cladding film substrate in Kim et al more hydrophilic and more adhesive to the subsequently applied core forming resin and cladding layer. Applicant has admitted in the instant specification (see pages 6 and 7) that such ozone or irradiation light treatment was known in the art at the time of invention and it is submitted that one of ordinary skill in the art would have employed this treatment to render film surfaces more adhesive to an applied resin and film layer as generally taught in Japanese -429. Indeed, the instant method employs these exact same steps of applying a resin and a film layer to the cladding film substrate.

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-19 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-19 of U.S. Patent No. 6,901,198 in view of Japanese Patent 2002-365,429. Although the conflicting claims are not identical, they are not patentably distinct from each other because the instant method of making a waveguide is essentially set forth in claims 1-19 of US Patent -057 lacking merely the application of step (2) as set forth in instant claims 1 and 19. As already set forth, Japanese -429 teaches ozone or irradiation light treatment to a film in the making of an optical article, the film subsequently having a resin and additional film applied thereto. The treatment renders the film more adhesive to the subsequently applied resin and additional film. It would have been obvious to one of ordinary skill in the art at the time of invention to have modified the method as set forth in claims 1-19 of US Patent -198 with the ozone or irradiation light treatment of Japanese -429 to facilitate the bonding of the core resin and additional cladding film to the cladding substrate. Concerning the refractive index difference set forth in instant claim 19, such is submitted to have been within the skill level of the art in the claims of US Patent -198 dependent on the exact materials used for the template and the core forming resin.

Claims 1-19 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 and 2 of U.S. Patent No. 7,174,057 in view of Japanese Patent 2002-365,429. Although the conflicting claims are not identical, they are not patentably distinct from each other because the instant method of

making a waveguide is essentially set forth in claims 1 and 2 of US Patent -057 lacking merely the application of step (2) as set forth in instant claims 1 and 19. As already set forth, Japanese -429 teaches ozone or irradiation light treatment to a film in the making of an optical article, the film subsequently having a resin and additional film applied thereto. The treatment renders the film more adhesive to the subsequently applied resin and additional film. It would have been obvious to one of ordinary skill in the art at the time of invention to have modified the method as set forth in claims 1 and 2 of US Patent -057 with the ozone or irradiation light treatment of Japanese -429 to facilitate the bonding of the core resin and additional cladding film to the cladding substrate. Concerning the refractive index difference set forth in instant claim 19, such is submitted to have been within the skill level of the art in the claims of US Patent -057 dependent on the exact materials used for the template and the core forming resin.

Claims 1-19 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-20 of U.S. Patent No. 7,317,861 in view of Japanese Patent 2002-365,429. Although the conflicting claims are not identical, they are not patentably distinct from each other because the instant method of making a waveguide is essentially set forth in claims 1-20 of US Patent -861 lacking merely the application of step (2) as set forth in instant claims 1 and 19. As already set forth, Japanese -429 teaches ozone or irradiation light treatment to a film in the making of an optical article, the film subsequently having a resin and additional film applied thereto. The treatment renders the film more adhesive to the subsequently applied resin and

additional film. It would have been obvious to one of ordinary skill in the art at the time of invention to have modified the method as set forth in claims 1-20 of US Patent -861 with the ozone or irradiation light treatment of Japanese -429 to facilitate the bonding of the core resin and additional cladding film to the cladding substrate. Concerning the refractive index difference set forth in instant claim 19, such is submitted to have been within the skill level of the art in the claims of US Patent -861 dependent on the exact materials used for the template and the core forming resin.

Claims 1-19 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-23 of U.S. Patent No. 7,294,292 in view of Japanese Patent 2002-365,429. Although the conflicting claims are not identical, they are not patentably distinct from each other because the instant method of making a waveguide is essentially set forth in claims 1-23 of US Patent -292 lacking merely the application of step (2) as set forth in instant claims 1 and 19. As already set forth, Japanese -429 teaches ozone or irradiation light treatment to a film in the making of an optical article, the film subsequently having a resin and additional film applied thereto. The treatment renders the film more adhesive to the subsequently applied resin and additional film. It would have been obvious to one of ordinary skill in the art at the time of invention to have modified the method as set forth in claims 1-23 of US Patent -292 with the ozone or irradiation light treatment of Japanese -429 to facilitate the bonding of the core resin and additional cladding film to the cladding substrate. Concerning the refractive index difference set forth in instant claim 19, such is submitted to have been

within the skill level of the art in the claims of US Patent -292 dependent on the exact materials used for the template and the core forming resin.

Claims 1-19 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-17 of copending Application No. 10/936,639 in view of Japanese Patent 2002-365,429. Although the conflicting claims are not identical, they are not patentably distinct from each other because the instant method of making a waveguide is essentially set forth in claims 1-17 of copending application -639 lacking merely the application of step (2) as set forth in instant claims 1 and 19. As already set forth, Japanese -429 teaches ozone or irradiation light treatment to a film in the making of an optical article, the film subsequently having a resin and additional film applied thereto. The treatment renders the film more adhesive to the subsequently applied resin and additional film. It would have been obvious to one of ordinary skill in the art at the time of invention to have modified the method as set forth in claims 1-17 of copending application -639 with the ozone or irradiation light treatment of Japanese -429 to facilitate the bonding of the core resin and additional cladding film to the cladding substrate. Concerning the refractive index difference set forth in instant claim 19, such is submitted to have been within the skill level of the art in the claims of copending application -639 dependent on the exact materials used for the template and the core forming resin.

This is a provisional obviousness-type double patenting rejection.

Claims 1-19 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-23 of copending Application No. 10/801,803 in view of Japanese Patent 2002-365,429. Although the conflicting claims are not identical, they are not patentably distinct from each other because the instant method of making a waveguide is essentially set forth in claims 1-17 of copending application -803 lacking merely the application of step (2) as set forth in instant claims 1 and 19. As already set forth, Japanese -429 teaches ozone or irradiation light treatment to a film in the making of an optical article, the film subsequently having a resin and additional film applied thereto. The treatment renders the film more adhesive to the subsequently applied resin and additional film. It would have been obvious to one of ordinary skill in the art at the time of invention to have modified the method as set forth in claims 1-23 of copending application -803 with the ozone or irradiation light treatment of Japanese -429 to facilitate the bonding of the core resin and additional cladding film to the cladding substrate. Concerning the refractive index difference set forth in instant claim 19, such is submitted to have been within the skill level of the art in the claims of copending application -803 dependent on the exact materials used for the template and the core forming resin.

This is a provisional obviousness-type double patenting rejection.

(10) Response to Argument

Appellant notes a number of advantages resulting from the instant ozone or light irradiation treatment at the bottom of page 8 of the brief, many of which have to do with

improving the adhesiveness of the surface so treated. This is not surprising, since the goal of Japanese -429, which discloses such treatment, is to facilitate the bonding of a surface so treated to a subsequently applied glue resin and polarizing plate by making it more hydrophilic. In many respects, the instant method is quite analogous to that shown in Japanese -429, since a core resin—ie, instead of a glue resin-- and cladding— instead of a polarizing plate-- are then applied to a treated cladding substrate. While the instant method may also allow an increased capillary filling rate, the instant claims are not so limited. One of ordinary skill in the art is expected to know of various treatments that would increase the adhesiveness of a surface to subsequently applied polymers and it is submitted on at least this basis that the rejection is tenable. While Japanese -429 may not suggest its combination with Kim et al, it is submitted that one of ordinary skill in the art would recognize from Japanese -429 that such treatment as disclosed therein would render a polymeric surface so treated as more receptive to a subsequently applied resin and/or film. Hence, the motivation to combine rests within the disclosures of the references as applied, and does not amount to hindsight reconstruction. Although appellant submits that Kim et al and Japanese -429 constitute divergent technologies, as already noted, it is believed fairly obvious that the method steps employed in the two references are remarkably similar. Both Kim et al and Japanese -429 are forming an optical product by adding a resin and a performed film to another film. Japanese -429 teaches one of ordinary skill in the art how to make a film more adhesive to an applied resin and film—by ozone or light irradiation treatment. Surely, one of ordinary skill in the waveguide art would look to such a disclosure when

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performing the method of Kim et al. The arguments concerning the double patenting rejections mirror that of the art rejection and hence are considered to be fully addressed. If Japanese -429 is combinable with Kim et al—and it is respectfully urged that such is so—then the reference would have also been combined in the double patenting rejections as applied to render the claims in the rejected US patents and applications as obvious.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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